

REMARKS

The Office Action mailed on September 16, 2004, made final, has been carefully considered and the Examiner's remarks are appreciated. Claims 1-65 are pending in the application. Claims 7, 21, 23, 30, and 34-65 are withdrawn from consideration, but please see comment below with regard to claim 23. And claims 18-20, 22, 24, and 25 are allowed. By the foregoing amendments, claims 3, 5, 6, 11-14, 16, 28, 29, have been canceled, and new claims 66-73 have been added. Therefore, claims 1, 2, 4, 8-10, 15, 17, 26, 27, 31-33, and 66-73 are presented for examination. Applicants respectfully request reconsideration in view of the following remarks.

Discussion of the Office Action

In the Office Action, the Examiner rejected Applicants' arguments for traversal of the restriction requirement of March 23, 2004. The Examiner also rejected claims 1-4, 8-10, 15-17, 26, 27, and 31-33 under 35 U.S.C. §102(b). And the Examiner objected to claims 5, 6, 11-14, 28, and 29 as being dependent upon a rejected based claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and intervening claims. Applicants have adopted the Examiner's suggestion with new claims 66-73 which correspond to now canceled claims 5, 6, 11-14, 28, 29, respectively.

Discussion of the Restriction Requirement

In the original restriction requirement of March 23, 2004, the Examiner stated that claim 23 was drawn to a product, as opposed to a method or apparatus, and therefore

withdrew claim 23 from further consideration as a non-elected claim. Applicants submit that this was in error, as Claim 23 is clearly not a product claim, but is rather a further limitation on the macro-cooling step. Applicants therefore assume that claim 23 will be considered for examination. Additionally, Applicants submit that claim 23 is also in condition for allowance as being dependent on allowed claim 22.

Discussion of the Rejections Under 35 USC §102(b)

The Examiner rejected claims 1-4, 8-10, 15-17, 26, 27, and 31-33 under 35 U.S.C. §102(b) as being anticipated by U.S. Pat. No. 4,904,340 to Miracky et al (hereinafter "Miracky"). In support of his rejection, the Examiner stated as follows:

"although patterns are formed corresponding to the displacement path of the laser beam, as argued by the applicant, the pattern etched is also determined by the size of the beam as stated in the passage cited by the applicant. Thus, the pattern formed by the size of the focus region of the laser forms a pattern in a parallel process where etching takes place concurrently or simultaneously at a plurality of local target regions of the substrate surface as broadly claimed by the applicant."

Regarding independent Claim 1, Applicants have provided amendments to clarify the distinctions of the present invention from the prior art, as follows:

"~~generating~~ independently controlling the generation of a local thermal gradient in each of a plurality of selected local regions of a boundary layer of the etchant solution to imagewise etch the substrate surface in a parallel process."

While Applicants maintain that the single beam of Miracky, regardless of its size, is used in a serial etching process and not a parallel process, the amended language

shown above now clearly indicates that the generation of local thermal gradients in various selected local regions is independently controlled. Assuming arguendo that a single, large-sized (i.e. wide) laser beam of Miracky can provide concurrent etching of multiple regions of a substrate (e.g. adjacent blocks on a coordinate grid), as suggested by the Examiner, each targeted region will be etched in the same manner and under the same conditions as all other targeted regions. In that case, the generation of local thermal gradients in each of the targeted local regions is not independently controlled, since one set of laser parameters will affect all targeted regions the same way.

With respect to independent Claim 26, Applicants have provided amendments to clarify the distinctions from the prior art in a manner similar to amended Claim 1, as follows:

“projecting region-specific electromagnetic radiation towards selected local regions of a boundary layer of the etchant solution to simultaneously locally heat the selected local regions independent of other selected local regions..”

In particular, the amended “region-specific electromagnetic radiation” indicates a plurality of, for example, laser rays, with each being specific to a region and therefore independent from each other. And as a consequence, the effect of projecting all the region-specific electromagnetic radiation is to simultaneously heat the selected local regions independent of other selected local regions. Clearly this is not the case in Miracky, where the etching laser, no matter its size or breadth, cannot be characterized as being “region-specific” as previously discussed.

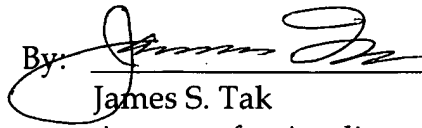
Applicants respectfully submit that independent claims 1 and 26, as well as dependent claims 2, 4, 8-10, 15 and 17 and dependent claims 26, 27, 31-33, are now allowable as amended, since each and every element as forth in the claims is not expressly or inherently described in a single prior art reference. Therefore the 102(b) rejections of claims 1, 2, 4, 8-10, 15, 17, 26, 27, and 31-33 should be withdrawn.

Summary

Applicants therefore respectfully submit that claims 1, 2, 4, 8-10, 15, 17, 26, 27, 31-33, and 66-73 are in condition for allowance (in addition to already allowed claims 18-20, and 22-25), and request allowance of claims 1, 2, 4, 8-10, 15, 17, 26, 27, 31-33, and 66-73. In the event that the Examiner finds any remaining impediment to the prompt allowance of these claims that could be clarified with a telephone conference, he is respectfully requested to initiate the same with the undersigned at (925) 422-7274.

Respectfully submitted,

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